

CLAIMS

TELL PENDING

SECRET 447660

- 1. A method for inducing in a mammalian animal both humoral and cytotoxic immune responses, the method comprising the steps of:
- 5 coating copies of a peptide that comprises an immunogenic determinant onto the surface of a plurality of particles that are sufficiently small and of sufficient density to be delivered with adequate momentum directly through a cell membrane;
- 10 accelerating into target skin cells of the mammalian animal an amount of the coated particles effective to induce in the animal an immune response specific to the determinant of the peptide, wherein the accelerating step comprises a prime and at least one boost;
- 15 detecting the induction of both humoral and cytotoxic immune response in the mammalian animal.

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2. The method as claimed in Claim 1 wherein the mammalian animal is a rodent.

20 3. The method as claimed in Claim 1 wherein the coating step comprises the step of chemically binding the copies of the polypeptide to the particles.

25 4. The method as claimed in Claim 1 wherein the accelerating step further comprises the steps of:  
placing the coated particles onto a planar carrier sheet;  
accelerating the carrier sheet toward the target skin cells; and  
30 stopping the carrier sheet while permitting the coated particles to travel on toward the target skin cells.

5. The method as claimed in Claim 4 wherein the carrier particles are accelerated under the force of a gaseous discharge.

6. The method as claimed in Claim 4 wherein the carrier sheet particles are accelerated under the force of an electric discharge.

7. The method as claimed in Claim 1 wherein the detecting step comprises an ELISA assay.

8. The method as claimed in Claim 1 wherein the detecting step comprises an assay for measuring proliferation of T-lymphocytes.

9. A method for inducing in a mammalian animal both humoral and cytotoxic immune responses, the method comprising the steps of:

coating copies of a peptide having less than fifteen amino acids and that comprises an immunogenic determinant onto the surface of a plurality of particles that are sufficiently small and of sufficient density to be delivered with adequate momentum directly through a cell membrane;

accelerating into target skin cells of the mammalian animal an amount of the coated particles effective to induce in the animal an immune response specific to the determinant of the peptide, wherein the accelerating step comprises a prime; and

detecting the induction of both humoral and cytotoxic immune response in the mammalian animal.

10. A method as claimed in Claim 9 further including a second boost step of delivering an additional quantity of coated carrier particles into the animal.

11. The method as claimed in Claim 1 wherein the  
5 peptide has multiple antigenic determinants.

12. The method as claimed in Claim 1 wherein the peptide is a whole, inactivated virus.

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